

REMARKS

Claims 25, 29 and 33 have been amended. Claims 36 and 37 have been added. Claims 24, 26-28, 31 and 34 have been canceled, without prejudice. Claims 25, 29, 30, 32, 33, 36 and 37 are currently pending in the application.

Claims 24-34 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Keese in view of Onoguchi. Since independent claims 24 and 34 have been canceled, this rejection is now moot. However, Applicants are providing comments below with regards to new claims 36 and 37.

New claims 36 and 37 have been added to describe formula (14) in the specification. No new matter is added. Keese neither teaches nor suggests calculating a signal supplied to a deflector based on a parameter of the deflector which is calculated. Keese only explains controlling an aligner based on a detection of a deviation between two images which is obtained when a focus condition is varied. Keese is completely silent on how a signal supplied to the aligner is obtained based on the deviation information.

Considering the situation before the present invention was made, it is common that an alignment is automated according to the method of storing in an apparatus in advance signals each supplied to the aligner, the signals being predetermined to each deviation. In a method like this, however, many kinds of signals for alignment with respect to many apparatus conditions must be stored. In addition, despite the situation when alignment is carried out under the same optical conditions, alignment operation according to the pre-stored signal may be difficult due to beam variation with time.

The present invention provides calculating a parameter of an alignment deflector based on a parameter based on images before and after supplying the predetermined signal to the alignment deflector to solve the disadvantage of the conventional technique described above. Therefore, according to the present invention, it is possible to carry out an alignment operation which is suitable to a device condition when the alignment operation is carried out. That is, because Keese neither teaches nor suggests how a signal supplied to an aligner is obtained based on

deviation information, it should be considered part of the conventional technique, as described above.

In addition, Onoguchi discloses that an alignment is carried out when an image deviation is greater than a threshold and is not carried out when the image deviation is smaller than or equal to the threshold. Onoguchi neither discloses nor teaches selecting means for selecting whether or not to calculate a parameter.

The present invention defines, in performing an alignment, how much degree of accuracy of the alignment should be obtained. By providing the selecting means, it is possible for a user to select a throughput and accuracy according to the user's status of use or the user's desire.

In view of the above, Applicants believe the pending application is in condition for allowance.

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Respectfully submitted,

By Amy Kuo
Mark J. Thronson
Registration No.: 33,082
Amy M. Kuo
Registration No.: 62,374
DICKSTEIN SHAPIRO LLP
1825 Eye Street, NW
Washington, DC 20006-5403
(202) 420-2200
Attorneys for Applicants